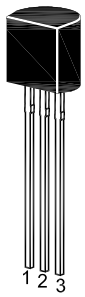
2N5550 / 2N5551

NPN Silicon Epitaxial Planar Transistors



1. Emitter 2. Base 3. Collector
TO-92 Plastic Package

Features

• As complementary types the PNP transistors 2N5400 and 2N5401 are recommended.

Applications

• For general purpose, high voltage amplifier applications

Absolute Maximum Ratings (T_a = 25 °C)

Parameter		Symbol	Value	Unit
Collector Base Voltage	2N5550 2N5551	V_{CBO}	160 180	V
Collector Emitter Voltage	2N5550 2N5551	V_{CEO}	140 160	V
Emitter Base Voltage		V_{EBO}	6	V
Collector Current		I_C	600	mA
Power Dissipation		P_{tot}	625	mW
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	- 55 to + 150	°C

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	200	°C/W

Dated: 26/05/2022 Rev:02

Characteristics at T_a = 25 °C

Parameter		Symbol	Min.	Max.	Unit
DC Current Gain					
at V_{CE} = 5 V, I_C = 1 mA	2N5550	h_{FE}	60	-	-
	2N5551	h_{FE}	80	-	-
at V_{CE} = 5 V, I_C = 10 mA	2N5550	h_{FE}	60	250	-
	2N5551	h_{FE}	80	250	-
at V_{CE} = 5 V, I_C = 50 mA	2N5550	h_{FE}	20	-	-
	2N5551	h_{FE}	30	-	-
Collector Base Cutoff Current					
at V_{CB} = 100 V	2N5550	I_{CBO}	-	100	nA
at V_{CB} = 120 V	2N5551		-	50	
Emitter Base Cutoff Current					
at V_{EB} = 4 V		I_{EBO}	-	50	nA
Collector Base Breakdown Voltage					
at I_C = 100 µA	2N5550	$V_{(BR)CBO}$	160	-	V
	2N5551		180	-	
Collector Emitter Breakdown Voltage					
at I_C = 1 mA	2N5550	$V_{(BR)CEO}$	140	-	V
	2N5551		160	-	
Emitter Base Breakdown Voltage					
at I_E = 10 µA		$V_{(BR)EBO}$	6	-	V
Collector Emitter Saturation Voltage					
at I_C = 10 mA, I_B = 1 mA		$V_{CE(sat)}$	-	0.15	V
at I_C = 50 mA, I_B = 5 mA	2N5550		-	0.25	
	2N5551		-	0.2	
Base Emitter Saturation Voltage					
at I_C = 10 mA, I_B = 1 mA		$V_{BE(sat)}$	-	1	V
at I_C = 50 mA, I_B = 5 mA	2N5550		-	1.2	
	2N5551		-	1	
Gain Bandwidth Product					
at V_{CE} = 10 V, I_C = 10 mA, f = 100 MHz		f_T	100	300	MHz
Collector Output Capacitance					
at V_{CB} = 10 V, f = 1 MHz		C_{ob}	-	6	pF

Dated: 26/05/2022 Rev:02

Electrical Characteristics Curves

Fig. 1 Output Characteristics Curve

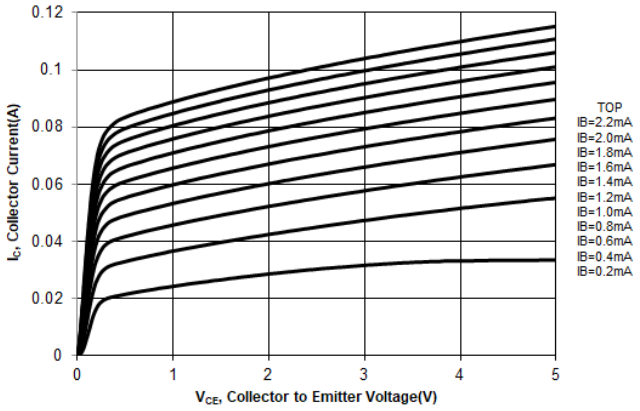


Fig. 2 Collector Current vs. Base to Emitter Voltage

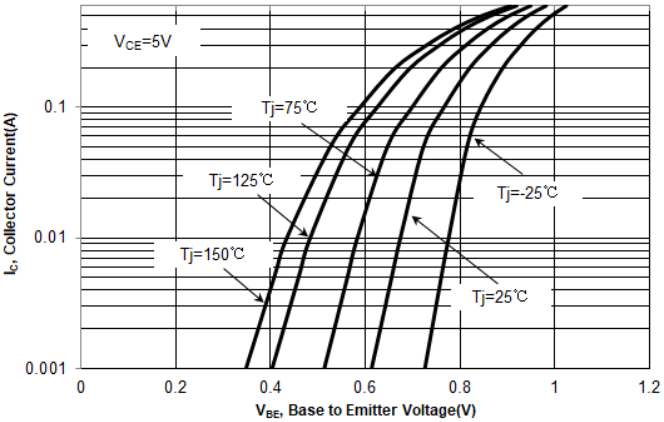


Fig. 3 h_{FE},DC Current Gain vs. Collector Current

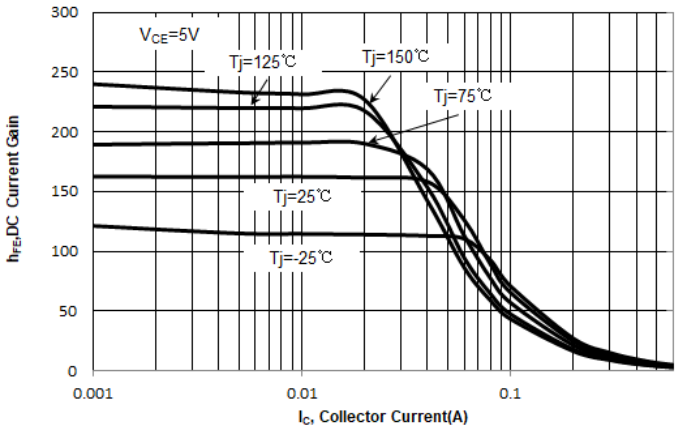
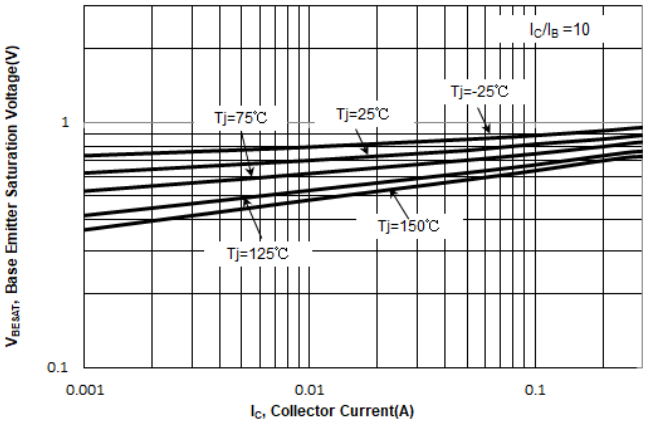


Fig. 4 $V_{BE(sat)}$ vs. Collector Current



Electrical Characteristics Curves

Fig. 5 $V_{CE(sat)}$ vs. Collector Current

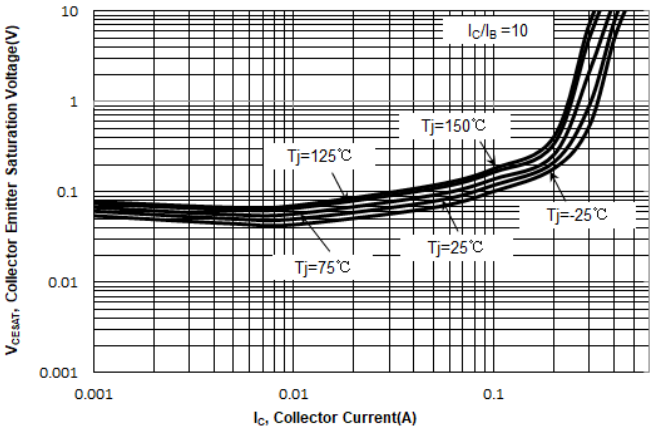


Fig. 6 Junction Capacitance

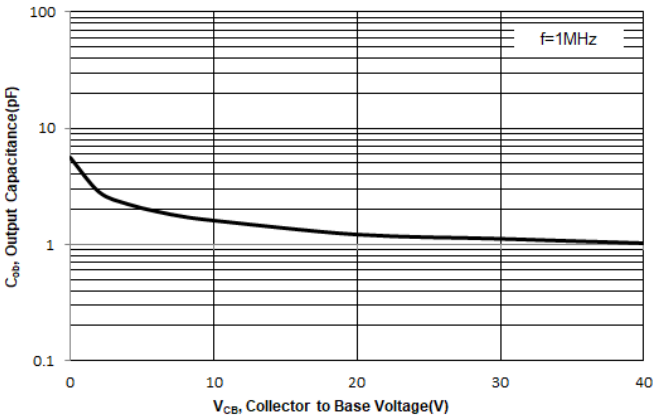
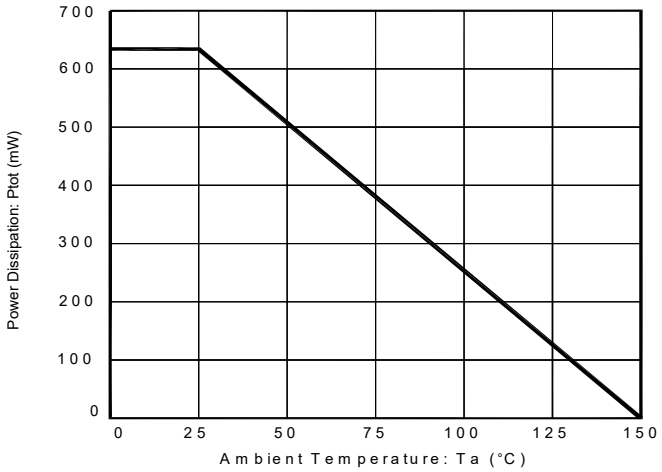
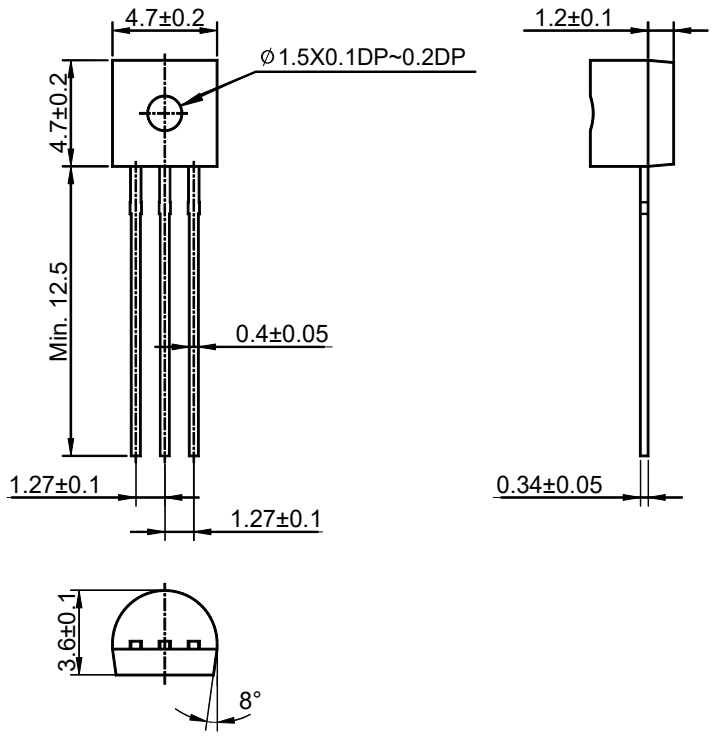


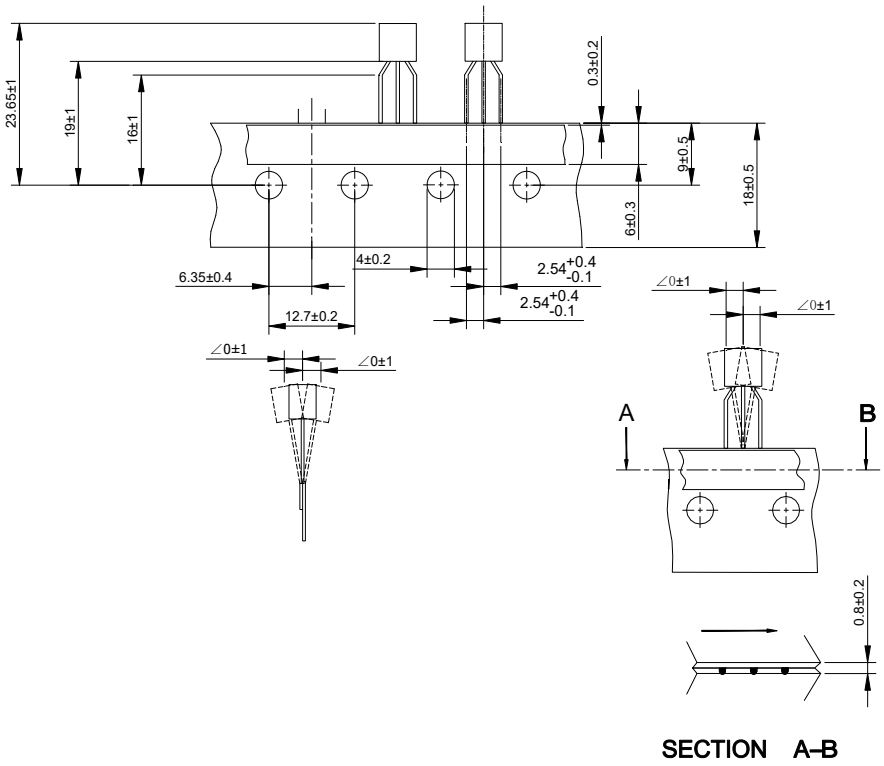
Fig. 7 Power Derating Curve



TO-92 Package Outline (Dimensions in millimeters)



TO-92 Ammo-Pack Outline (Dimensions in millimeters)



SECTION A–B

Dated: 26/05/2022 Rev:02